

2. Applicant fully acknowledges Evans teaching as set forth by the Examiner in page 3 of the OA, in providing a wear and corrosion resistance surface by applying a parylene coating to it.

3. Applicant however respectfully traverses the Examiner conclusion that a combination of Gilding and Evans can render obvious or anticipate the invention of the present application for the following reason:

The typical temperature range during bonding of the surface of the substrate on which wire bonding is accomplished is about 150°C - 250°C , which is also the average temperature of the pressing surface tip of the capillary on which the polymer has been deposited.

This temperature range is well above the glass transition temperature (as far as it is at least known for parylene C), which is shown in attachment 1, and which above it the deposited film becomes fragile, and embrittled.

Furthermore, there is a big mismatch between the thermal expansion properties of alumina (from which the pressing face of the capillary is made) and parylene as shown in attachments 2 and 3.

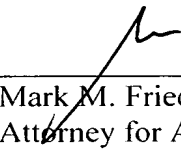
A difference of an order of magnitude between the thermal expansion coefficients of alumina and parylene (about $0.5 \times 10^{-5} \text{ C}^{-1}$ vs. about $5 \times 10^{-5} \text{ C}^{-1}$ respectively) combined with a working temperature of say 200°C suggests to any person skilled in the art of wire bonding having the slightest idea in material science and technology that the integrity and endurance of polymer layer on the tip of the alumina capillary will not last under the applied thermal stress of the wire bonding, rather it should crack and peel of from the surface.

Applicant thus respectfully argues that the essence of his invention mainly, improving the bond quality and extending capillary life-time for over 1 Mwire of bonds by the use of the parylene film, cannot be rendered obvious nor can it be anticipated by any combination of Gilding over Evans.

On the contrary, the thermal properties of the materials employed together with existing prior art teaches away applicant's invention.

In view of the above amendments and remarks, prompt notice of allowance for claims 3 and 4 of the application is respectfully and earnestly solicited.

Respectfully submitted,



Mark M. Friedman
Attorney for Applicant
Registration No. 33,883

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